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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
09/787,998	03/23/2001	Hirofumi Taketsu	2204-002012	1204

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EXAMINER

BLOUNT, STEVEN

ART UNIT	PAPER NUMBER
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2661

DATE MAILED: 05/16/2003

11

Please find below and/or attached an Office communication concerning this application or proceeding.

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Office Action Summary

Application No.

09/787,998

Applicant(s)

OSAKA et al

Examiner

Blount

Group Art Unit

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—The MAILING DATE of this communication appears on the cover sheet beneath the correspondence address—

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, such period shall, by default, expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133).

Status

☒ Responsive to communication(s) filed on 5/2/03

☒ This action is FINAL.

- ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11; 453 O.G. 213.

Disposition of Claims

☒ Claim(s) 1, 4-7, 9-10 is/are pending in the application.

Of the above claim(s) _____ is/are withdrawn from consideration.

☐ Claim(s) _____ is/are allowed.

☒ Claim(s) 1, 4-7, 9-10 is/are rejected.

☐ Claim(s) _____ is/are objected to.

☐ Claim(s) _____ are subject to restriction or election requirement.

Application Papers

- ☐ See the attached Notice of Draftsperson's Patent Drawing Review, PTO-948.
- ☐ The proposed drawing correction, filed on _____ is ☐ approved ☐ disapproved.
- ☐ The drawing(s) filed on _____ is/are objected to by the Examiner.
- ☐ The specification is objected to by the Examiner.
- ☐ The oath or declaration is objected to by the Examiner.

Priority under 35 U.S.C. § 119 (a)-(d)

- ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d).
 - ☐ All ☐ Some* ☐ None of the CERTIFIED copies of the priority documents have been received.
 - ☐ received in Application No. (Series Code/Serial Number) _____
 - ☐ received in this national stage application from the International Bureau (PCT Rule 1.7.2(a)).

*Certified copies not received: _____

Attachment(s)

- ☐ Information Disclosure Statement(s), PTO-1449, Paper No(s). _____
- ☐ Interview Summary, PTO-413
- ☐ Notice of Reference(s) Cited, PTO-892
- ☐ Notice of Informal Patent Application, PTO-152
- ☐ Notice of Draftsperson's Patent Drawing Review, PTO-948
- ☐ Other _____

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DETAILED ACTION

Claim Rejections - 35 U.S.C. § 103

1. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

2. Claims 1, 4 - 7, and 9 are rejected under 35 U.S.C. 103(a) as being obvious over applicants admitted prior art (hereinafter referred to as AAPA) in view of U.S. patent 6,009,913 to Kojima et al.

With regard to claim 1, AAPA teaches, in the section labeled "Prior Art", page 2, lines 17 - page 3, lines 1 - 3 of the specification, that, "an *Al-coated steel sheet* to which an organic resin film is applied (hereinafter referred to as "an anti-corrosion painted steel sheet", as disclosed in JP-306637A, JP9-53166A) is proposed as a material for a *fuel tank* in order to eliminate the above mentioned problems...(beginning at line 28)...However, an Al plating layer formed on the steel sheet is inferior of anti-scratching property during press-working, so that substrate steel is often partially exposed to the outside when it is press-worked to upper and lower halves 2, 3" (emphasis added).

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Therefore, AAPA does not teach a coating which is, as stated, capable of protecting the fuel tank from scratches during its formation; nor does AAPA teach a coating which would be easily removable after the forming process.

Kojima et al teaches (col 6, lines 1+) that "when a resin coating is to be removed after hydroforming, a removable resin coating is used, a preferred removable coating is thermoplastic type and, *soluble in an alkali aqueous solution*" (emphasis added). Kojima also discloses the problem of scratching the material by the dies (again during a steel forming operation) which occurs during the high pressures encountered with hydroforming. See col 2 lines 27+ and col 3 lines 62+ which discuss a solution to this problem through the use of a "lubricating organic resin coating", wherein the resin coating is "*soluble in an alkali aqueous solution*" (col 6, lines 3 - 4 and col 14, paragraph 2). Kojima also teaches a carboxyl group with an acid value of 10 to 160. See col 6, lines 19+. While Kojima does not explicitly teach the resin film to be soluble in an alkali liquid of PH 9.0 or higher, one of ordinary skill in the art would recognize that this is a typical (and wide) range of alkalinity values one would use to create conditions which would allow the resin to be subsequently dissolved and removed from the fuel tank, and its value is strongly suggested by the choice of acid value. (Note this dependence of solubility on acid value is discussed in col 6, lines 22+: "An acid value of less than 10 associated with the carboxyl groups causes a resin coating to become less soluble in an aqueous alkali solution, whereas an acid value in excess of 160 impairs the water resistance of a resin coating").

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It would have been obvious to one of ordinary skill in the art at the time of the invention to have applied the alkali soluble organic resin film directly to the aluminum coated steel sheet-formed fuel tank in AAPA (and taught in 9142466, as mentioned in AAPA), in light of the teachings of Kojima, in order to protect the surface of the fuel tank from scratching during its formation by using a coating which can thereafter be easily removed.

With regard to claim 5, see table 2 of K, which discusses the use of urethane.

With regard to claim 6, see page 3, lines 27+ of AAPA. See also col 5, lines 63+ of Kojima.

With regard to claim 7, see the various coating thicknesses in table 2 of K.

With regard to claim 9, the use of polyacrylic homopolymers is taught in col 6, lines 27+ of K.

3. Claim 10 is rejected under 35 U.S.C. 103(a) as being obvious over applicants admitted prior art (AAPA) in view of U.S. patent 6,009,913 to Kojima et al as applied to claim 1 above, and further in view of Japanese patent 410265967 to Teruaki et al.

AAPA/Kojima teach the invention as described above, but do not teach the use of 1 - 30% powdery silica. The use of silica is taught in Teruaki (2 - 13%), wherein a powdered form of it is commonly known. Further, the amount used in Teruaki is similar to that claimed.

It would have been obvious to one of ordinary skill in the art at the time of the invention to have provided the resin film of AAPA/Kojima with a powdery silica (1 - 30%), in light of the teachings of Teruaki et al, in order to make the resin evenly applicable to the surface.

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Response to Arguments

4. Applicant's arguments filed 5/2/03 have been fully considered but they are not persuasive. Applicant points out that the coating may or may not be removed from the steel pipe. True, col 4 lines 43+ state that it may be left on, but the thrust of the disclosure, as seen in col 6 lines 1+, is that it is removed. Further, applicant does not claim removing the coating, particularly in claim 1. Applicant next argues that "some of the disadvantages of the Al-coated steel sheet of AAPA, as stated on page 3, lines 9-17 of the present application, include that the organic resin film and lubricate film of the Al-coated sheets in AAPA are thermally decomposed during resistance welding,...". However, since applicants solution to this problem is "Application of an alkali-soluble lubricate film" (page 3, line 18), and since the examiner is arguing that this is taught in Kojima et al, and that Kojima is properly combinable with the admitted prior art, this statement lacks any arguable merit. Applicant argues that hydroforming is distinct from press working. In response, press working is not claimed, press working is mentioned in the admitted prior art
12/ (Since a material is worked to the fuel tank with heavy duty, it shall be good of press-workability...page 1, lines 24+), and hydroforming is simply a method of applying pressure through the application of a liquid force. In each case, a pressure is applied, and in each case (the point in this application and the teachings of Kojima et al) the use of a protective coating which is easily removable via solution in an alkali liquefied is used to protect the underlying member. Applicant argues that Kojima does not teach an alkali soluble resin film directly formed on the surface of an Aluminum coated steel sheet. However, AAPA teaches a protective coating applied

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directly to an Aluminum coated steel sheet, and Kojima is used for the teaching that it is a removable coating via the fact that it is soluble in an alkali medium, just as claimed by the applicant. Again, see col 6, lines 1+ of Kojima, and pages 1 to three (admitted prior art) of the present application.

With regard to the newly added PH and acid value conditions, see the rejection of claim 1 above.

With regard to the mass % of powdery synthetic material, see the rejection of claim 6 above. The arguments with regard to the Calhoun reference are moot in view of the fact that it has been withdrawn. The examiner notes that it is not surprising that Kojima et al teaches all of the particular details of the invention, since its fundamental purpose is to provide a protective coating to a metal surface during its working and then the easy removal of this coating via its dissolution in an alkaline medium when finished, which is the same fundamental idea behind the applicants invention.

5. Applicant's amendment necessitated the new ground(s) of rejection presented in this Office action. Accordingly, THIS ACTION IS MADE FINAL. See MPEP § 706.07(a). Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).

A shortened statutory period for reply to this final action is set to expire THREE MONTHS from the mailing date of this action. In the event a first reply is filed within TWO MONTHS of the mailing date of this final action and the advisory action is not mailed until after the end of the THREE-MONTH shortened statutory period, then the shortened statutory

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period will expire on the date the advisory action is mailed, and any extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of the advisory action. In no event, however, will the statutory period for reply expire later than SIX MONTHS from the date of this final action.

Contact Information

6. Examiner Blount may be contacted at the Patent Office between the hours of 9:00 am to 5:30 P.M. Monday through Friday. His phone number is (703) 305-0319.



DOUGLAS OLMS
SUPERVISORY PATENT EXAMINER
TECHNOLOGY CENTER 2600

SB

5/9/03